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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,936	02/21/2002	Markus Lindemann	(MM) 54 199	6569

7590 02/09/2005  
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EXAMINER

KOSOWSKI, ALEXANDER J

ART UNIT PAPER NUMBER

2125

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/080,936

Applicant(s)

LINDEMANN ET AL.

Examiner

Alexander J Kosowski

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-3, 9, 10, 22 and 23 is/are rejected.  
7) ☒ Claim(s) 4-8 and 10-21 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 21 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

- 1) Claims 1-23 are presented for examination in light of the amendment filed 11/8/04.

***Claim Objections***

- 2) The claim objections from the previous office action are withdrawn in light of the amendment filed 11/8/04.

***Allowable Subject Matter***

- 3) Claims 4-8 and 10-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Claim Rejections - 35 USC § 112***

- 4) The rejection of claims 6 and 18 under U.S.C. 112 from the previous office action are withdrawn in light of the amendment filed 11/8/04.

- 5) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 6) Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Referring to Claim 10, the claim recites the limitation "the projecting sections" in line 3. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

- 7) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8) Claims 1, 3 and 9 are rejected under 35 U.S.C. 102(b) as being unpatentable by Deckard (U.S. Pat 5,017,753).

Referring to claim 1, Deckard teaches a process for producing a shaped body by selective laser melting (col. 2 lines 50-53), in which a shaped body is built up from pulverulent metallic material using CAD data of a model (col. 2 lines 65-67), comprising the following steps: applying a powder layer using an applicator unit (col. 2 lines 53-54), fixing the applied powder layer to a layer below it using a focused laser beam (col. 2 lines 54-57), applying the powder layer selectively by the applicator unit to regions of a surface of the shaped body that lie below or adjoin a plane that is defined by a predetermined layer thickness for a next powder layer that is to be processed (col. 4 lines 5-17).

Referring to claim 3, Deckard teaches the process according to claim 1, wherein the applicator unit is positioned above the surface of or passes over the shaped body one or more times (col. 4 lines 5-17).

Referring to claim 9, Deckard teaches a device for producing a shaped body by selective laser melting for carrying out the process according to claim 1, comprising a process chamber comprising a build-up chamber for the shaped body (Figures 10 and 11, whereby the components would be held in a chamber to eliminate contamination), an applicator unit that, after the shaped body has been positioned, applies a layer of powder a next desired layer thickness, when positioned above the shaped body or passed over the shaped body at least once, wherein the applicator unit has selecting means for the selective application of the powder layer (col. 4 lines 5-17).

***Claim Rejections - 35 USC § 103***

9) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10) Claims 2 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deckard, further in view of Mazumder (U.S. PGPUB 2002/0065573).

Referring to claim 2, Deckard teaches the invention above. However, Deckard does not explicitly teach the process according to claim 1, further comprising the steps of: recording areas that lie below or adjacent to a plane of the predetermined layer thickness for the next powder layer to be processed by means of a device, and applying the material powder in finely defined form in those areas.

Mazumder teaches a powder applicator unit for a laser sintering device whereby the size and the quantity of powder which can be discharged is limited and controllable to specific defined areas (Paragraphs 0023 and 0030).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to utilize determine areas of differing thickness and apply material in those areas specifically in the invention taught by Deckard since this would allow for increased powder utilization and better thermal management (Mazumder, Paragraph 0030), and since this would increase the smoothness of the resulting object.

Referring to claims 22-23, Deckard teaches the invention above. However, Deckard does not explicitly teach that the applicator unit comprise at least one scanning element with a closure section that interacts with an opening in the applicator unit and opens or closes the opening in the applicator unit as a function of a size of a projecting section, nor that the scanning element comprises a middle area which, irrespective of a position of the closure section in the opening, interacts with a further section of the opening and limits the maximum quantity of powder which can be discharged.

Mazumder teaches a powder applicator unit for a laser sintering device whereby the size of a projecting section of powder and the quantity of powder which can be discharged is limited and controllable (Paragraphs 0023 and 0030).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to utilize the limitations of claims 22-23 in the invention taught by Deckard since this would allow for increased powder utilization and better thermal management (Mazumder, Paragraph 0030).

### ***Response to Arguments***

11) Referring to claims 1 and 3, applicant states that the present invention “allows applying a layer of powder to the areas of the surface of the shaped body which lie below or adjoin a plane which is defined by the predetermined layer thickness for the next powder layer to be processed, irrespective of projecting sections or uneven sections.” Applicant argues that the leveling device of Deckard will “only work if the desired thickness of the mound of powder is absolutely thicker than the maximum of the uneven or the projecting sections”. In response, examiner notes that the claim language being used does not discuss projecting sections or uneven sections. The

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claim simply states that powder is applied “to regions of a surface of the shaped body that lie below or adjoin a plane that is defined by a predetermined layer thickness for a next powder layer that is to be processed”. Applicant is arguing out of the specification, not out of the claim language. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). As such, examiner stands behind the original rejection. The cited art of Deckard teaches this functionality.

Referring to claim 9, applicant argues that Deckard does not teach “applying the powder selectively to regions of a surface” which would enable that “not only the powder is melted, but also the projecting or uneven sections...” Again, examiner notes that applicant is arguing out of the specification with regard to projecting or uneven sections. In addition, examiner notes that “selecting means for the selective application of the powder layer” is broad wording which can be interpreted to mean applying powder to a select desired thickness, which is taught by Deckard in the maintained rejection above.

Referring to claim 2, applicant argues that Mazumder’s DMD process “does not deal with the problem of projecting sections”. Again, examiner notes that there is no mention of “projecting sections” in the claim language used, and applicant is arguing out of the specification.

Referring to claim 3, applicant argues that “Deckard does not suggest moving the applicator unit and/or the leveling device more times over the surface of the shaped body...” Examiner notes that in the claim language of claim 3, there are several instances of the word

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“or”, and as such every claim element of claim 3 is not required to be present. In the claim element “one or more times”, only a single time is required to be present.

Referring to claims 22-23, examiner maintains his rejection. Mazumder teaches scanning a powder applicator unit whereby the size of a projecting section of powder and the quantity of powder which can be discharged is limited and controllable by adjusting an opening size.

All other arguments are rendered moot in that the rejections on those claims have been withdrawn and those claims are now only objected to as being dependent on rejected claims as shown above.

### ***Conclusion***

12) **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

13) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander J Kosowski whose telephone number is 703-305-3958. The examiner can normally be reached on Monday through Friday, alternating Fridays.

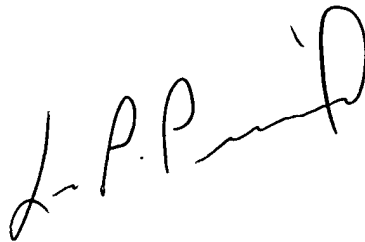


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 703-308-0538. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306. In addition, the examiner's RightFAX number is 703-746-8370.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Alexander J. Kosowski  
Patent Examiner  
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A handwritten signature in black ink, appearing to read 'L. Picard', with a stylized flourish at the end.

**LEO PICARD  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100**